

REMARKS

This Reply is responsive to the non-final Office Action¹ of January 18, 2007.

Claims 1-22 and 24 were presented for examination and were rejected. Claim 24 is objected to as being incorrectly numbered; claim 24 is renumbered as claim 23, by way of this amendment, since there was no prior claim 23. It is respectfully requested that the claim objections be withdrawn. Claims 1, 11, 14-19 and 23 are independent claims.

Claims 14-15 are rejected under 35 U.S.C. §102(b) as being anticipated by Sydon et al., (2002/0085520, referred to hereinafter as "Sydon"). Claim 19 is rejected under 35 U.S.C. §102(e) as being anticipated by Sivakumar et al., (2005/0018631, referred to hereinafter as "Sivakumar"). Claims 1-13, 16-17, 21 and 24 [now, claim 23] are rejected under 35 U.S.C. §103(a) as being un-patentable over Sivakumar in view of Sydon. Claim 18 is rejected under 35 U.S.C. §103(a) as being un-patentable over Sivakumar in view of Abdesselem et al. (2001/0022791, referred to hereinafter as "Abdesselem"). Claims 20 and 22 are rejected under 35 U.S.C. §103(a) as being un-patentable over Sivakumar in view of Sydon, further in view of Dohler et al. (2004/0131025, referred to hereinafter as "Dohler"). Applicant respectfully traverses these rejections for the following reasons.

A basic notion of the subject matter recited in Applicant's claims is to provide assigned time slots for each of a plurality of network nodes where the time slots define

¹ The Office Action may contain a number of statements characterizing the cited references and/or the claims which Applicant may not expressly identify herein. Regardless of whether or not any such statement is identified herein, Applicant does not automatically subscribe to, or acquiesce in, any such statement. Further, silence with regard to rejection of a dependent claim, when such claim depends, directly or indirectly, from an independent claim which Applicant deems allowable for reasons provided herein, is not acquiescence to such rejection of that dependent claim, but is recognition by Applicant that such previously lodged rejection is moot based on remarks and/or amendments presented herein relative to that independent claim.

when the nodes can RECEIVE messages. For example, considering one of the nodes in the network, that node is assigned one or more time slots during which it has the capability to RECEIVE messages from other nodes in the network. This timeslot constraint upon this one node, therefore, places constraints on all of the other nodes in the network to the extent that they cannot transmit messages to this one node that shall be received by this one node at any times other than the times of the one node's assigned timeslots.

However, in the prior art, using time division multiple access (TDMA), for example, the time slots were assigned to nodes in a network to designate, quite differently, when each node is able to TRANSMIT messages to other nodes in the network. This is clearly shown in Applicant's prior art Fig. 1. Each node depicted has the ability to transmit information, as shown by the direction of the arrows pointing away from each node and pointing to a particular timeslot. Each node can transmit information only during the timeslot to which that node is pointing.

By contrast, in looking at Applicant's Fig. 4, which is layed-out similarly to the network of Fig. 1, this shows an embodiment of Applicant's invention where each node is depicted receiving at least one message during a particular timeslot dedicated to that node. In Fig. 4, the arrows are pointing towards the nodes, implying receipt of messages by the nodes, where each node's received message(s) represented by that node's respective arrow is received during a time slot which is assigned to only that node, as shown. Node 201-3 is depicted with an arrow pointing to it only during timeslot 414. Thus, in the example of Fig. 4, node 201-3 can receive messages only during timeslot 414. This network operation, or similar operation, is not shown in the applied references.

Sydon:

Sydon is a cordless communication system for providing optimum spectral usage for wireless networks. (title) The cordless communication system is comprised of a central unit (12) and at least two remote units (e.g., 14/16) that are capable of direct communication with each other via wireless connections assigned and coordinated by the central unit. (Fig. 2, Abstract) Applicant has reviewed Sydon including its paragraphs of [0018], [0021] and [0025] cited by the Examiner against claims 14-15 (Office Action, pg 2) and there is no mention of establishing timeslots for any of its nodes during which a respective node is permitted to receive messages from the other node(s).

Instead, these paragraphs discuss frequency hopping spread spectrum (FHSS) technology, direct sequence spread spectrum (DSSS) technology and hop-sequence subject matter, all of which does not disclose Applicant's claimed subject matter. Further, Sydon's reference to TDMA in paragraph [0017] does not disclose or suggest the subject matter recited in Applicant's claims. If a first node can receive a message from another network node anytime the first node is transmitted to, that is not an example of what is being recited in Applicant's claims. If the Examiner persists in applying Sydon, Applicant respectfully requests that the Examiner point specifically to language in Sydon which allegedly shows that timeslots are assigned to network nodes during which those nodes are permitted to receive transmissions from other nodes.

Sivakumar:

Sivakumar relates to a frequency hopping spread spectrum communication system. (title) It discloses a central node 10 and dependent nodes 12a-12d which

communicate over a time division duplexed, frequency hopping channel, alternating in time between slots allocated for the central node and dependent node transmission (Fig. 2, Abstract) The “U” slots are reserved for transmission by the dependent nodes 12 and the D slots are reserved for transmission by the central node 10. (Fig. 1, ¶ 24) Furthermore, there is a restriction on transmission because a dependent node cannot use a next available dependent node timeslot if the central node used the previous timeslot to transmit to a dependent node. (Abstract; ¶ 10) However, all of this has nothing to do with certain limitations in Applicant’s claims.

Note that the Sivakumar disclosure focuses on operational aspects of transmission. Fig. 1 which shows the central node D slots and the dependent node U slots is discussed in terms of transmission: “Each time slot in the hop sequence is alternately reserved for transmission by the central node 10(D slots) and transmission by the dependent nodes (U slots).” (Sivakumar, ¶ 24, emphasis added) There is no focus in Sivakumar on timeslots for receiving. Simply because there may be some node in the network which receives a message when another node transmits during a prescribed transmission timeslot, this does not have any bearing on the subject matter of Applicant’s claims. If a first node can receive a message from another network node anytime the first node is transmitted to, that is not an example of what is being recited in Applicant’s claims.

Applicant has reviewed Sivakumar including its paragraphs [0003], [0010], [0020], and [0024] - [0042] which were cited against Applicant’s claim 19 in the Office Action. In these many paragraphs, there is no mention of establishing timeslots for any of its nodes during which a respective node is permitted to receive messages from the

other node(s). These paragraphs discuss the Sivakumar subject matter summarized above, which does not disclose Applicant's claimed subject matter. If the Examiner persists in applying Sivakumar, particularly in view of the many paragraphs cited in the Office Action, Applicant respectfully requests that the Examiner point specifically to the language in Sivakumar which allegedly shows that timeslots are assigned to network nodes during which those nodes are permitted to receive transmissions from other nodes.

Claims 14-15:

Claims 14-15 are rejected under 35 U.S.C. §102(b) as being anticipated by Sydon. Claim 14 recites, *inter alia*: “means for receiving a plurality of the messages only during assigned timeslots” (emphasis added) which is not disclosed or suggested in Sydon for reasons given above. Accordingly this rejection should be withdrawn and the claim allowed.

Claim 15 recites *inter alia*: “the node is configured to: receive, a message from at least one of the nodes during a receive timeslot assigned to the node” which is not disclosed or suggested in Sydon for reasons given above. Accordingly this rejection should be withdrawn and the claim allowed.

Claim 19:

Claim 19 is rejected under 35 U.S.C. §102(e) as being anticipated by Sivakumar. Claim 19 recites, *inter alia*: “at least one transmitter configured to transmit to a destination node using an assigned modulation scheme during a timeslot assigned to the destination node; and a plurality of receivers configured to receive a plurality of messages during a timeslot assigned to the node” (emphasized added) which are not

disclosed or suggested in Sivakumar for reasons given above. Accordingly this rejection should be withdrawn and the claim allowed.

Claims 1-13, 16-17, 21 and 24:

Claims 1-13, 16-17, 21 and 24 are rejected under 35 U.S.C. §103(a) as being unpatentable over Sivakumar in view of Sydon. Claims 1, 11, 16, 17 and 24 are independent claims, each containing at least one limitation with respect to a message-receiving timeslot that is not in accordance with the principles of operation of Sivakumar and Sydon as discussed above. Consider the independent claims:

Claim 1 recites, *interalia*: “assigning a timeslot to each of the plurality of nodes in the wireless network, the timeslot being a time for a corresponding one of the plurality of nodes to receive messages transmitted by other of the plurality of nodes,” and “the message being transmitted during a timeslot assigned to the at least one destination node. These limitations are not disclosed or suggested in Sivakumar for reasons given above (emphases added). Accordingly this rejection should be withdrawn and the claim allowed because Sydon has the same deficiency as Sivakumar and, therefore, does not cure the deficiency in Sivakumar.

Claim 11 recites, *interalia*: “at least one transmitter configured to transmit to a destination node using the assigned modulation scheme during a timeslot assigned to the destination node; and a plurality of receivers configured to receive a plurality of messages during a timeslot assigned to the node (emphases added) which are not disclosed or suggested in Sivakumar for reasons given above. Accordingly this rejection

should be withdrawn and the claim allowed because Sydon has the same deficiency and, therefore, does not cure the deficiency in Sivakumar.

Claim 16 recites, *interalia*: “receiving, by a node in a network during a TDMA timeslot assigned to the node for receiving, a plurality of messages transmitted by a plurality of other nodes, each of the other nodes transmitting messages to the node during the timeslot assigned to the node.” (emphasis added) which is not disclosed or suggested in Sivakumar for reasons given above. Accordingly this rejection should be withdrawn and the claim allowed because Sydon has the same deficiency and, therefore, does not cure the deficiency in Sivakumar.

Claim 17 recites, *interalia*: “receiving, by a node in a network during a TDMA timeslot assigned to the node for receiving, a plurality of messages transmitted by a plurality of other nodes, each of the other nodes transmitting messages to the node during the timeslot assigned to the node” (emphasis added) which is not disclosed or suggested in Sivakumar for reasons given above. Accordingly this rejection should be withdrawn and the claim allowed because Sydon has the same deficiency and, therefore, does not cure the deficiency in Sivakumar.

Claim 24 recites, *interalia*: “assigning a timeslot to each of said plurality of nodes, said timeslot being the time when said each of said plurality of nodes is capable of receiving a message from at least one other of said plurality of nodes.” (emphasis added) which is not disclosed or suggested in Sivakumar for reasons given above. Accordingly this rejection should be withdrawn and the claim allowed because Sydon has the same deficiency and, therefore, does not cure the deficiency in Sivakumar.

Thus, independent claims 1, 11, 16, 17 and 24 have been shown to recite limitations which render those claims allowable over Sydon and Sivakumar, taken individually or in any reasonable combination, because either reference does not cure the deficiency of the other reference's not disclosing or suggesting subject matter recited in the above-quoted claim limitations.

Claim 18:

Claim 18 is rejected under 35 U.S.C. §103(a) as being un-patentable over Sivakumar in view of Abdesselem. Claim 18 recites, *inter alia*: “during a *timeslot assigned to the at least one other of the ultra-wideband nodes for receiving* the message; receiving and demodulating the message, using the one of the plurality of the transmit spreading codes at the at least one other of the ultra-wideband radios during the timeslot.” (emphasis added) Sivakumar does not disclose or suggest this claim limitation for reasons given above. Abdesselem, which again focuses on transmitting, combined with Sivakumar, is cited against claim 18 (Office Action, pg. 12) to show “short bursts” for synchronization purposes, which is unrelated to the above-noted deficiency of Sivakumar. Upon review, as expected, Abdesselem does not cure this deficiency of Sivakumar. Accordingly this rejection should be withdrawn and the claim allowed.

Dependent Claims 2-10 and 20-22:

Claims 2-10 and 20-22 are dependent from claim 1 and are allowable at least for reasons based on their dependency from an allowable base claim 1. Furthermore, although claims 20 and 22 were rejected under 35 U.S.C. §103(a) as being un-patentable over Sivakumar in view of Sydon, further in view of Dohler, Dohler is cited (Office

Action, pg. 12) to show increasing system performance by occupying fewer time slots.

However, this is unrelated to the above-noted deficiency of Sydon or Sivakumar. Upon review, as expected, Dohler does not cure the deficiency of Sydon or Sivakumar noted above.

Dependent Claims 12-13:

Claims 12-13 are dependent from claim 11 and are allowable at least for reasons based on their dependency from an allowable base claim 11.

CONCLUSION

Reconsideration and allowance are respectfully requested based on the above amendments and remarks. It is respectfully submitted that all claims and, therefore, this application are in condition for allowance.

If there are any remaining issues or if the Examiner believes that a telephone conversation with Applicant's attorney would be helpful in expediting the prosecution of this application, the Examiner is invited to call the undersigned at the number provided below.

To the extent necessary, a petition for extension of time under 37 C.F.R. § 1.136 is hereby made, the fee for which should be charged to deposit account number 07-2347. Please charge any other fees due, or credit any overpayment made to that account.

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